

Date: Wednesday, 12/7/2005 8:26:00 AM  
 User: Kim Johnston

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : WEARPLATE
<b>Job Number</b> : 25137	
<b>Estimate Number</b> : 10288	
<b>P.O. Number</b> : N/A	<b>Part Number</b> : D25771
<b>This Issue</b> : 12/7/2005 <b>S.O. No.</b> : N/A	<b>Drawing Number</b> : D2577 REV E
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : N/A <b>Type</b> : PURCHASED PARTS	<b>Drawing Revision</b> : E
<b>Previous Run</b> : 24371	<b>Material</b> : N/A
<b>Written By</b> : <u>SEE COMMENT BELOW</u>	<b>Due Date</b> : 12/30/2005 <b>Qty:</b> 50 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <u>SEE ABOVE USER &amp; DATE</u>	
<b>Comment</b> : Est: E 02.09.24 Re-format; Incorporated D2577-101-11 KJ/ RF	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	PG	PURCHASING
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**Comment:** PURCHASINGIssue P/O: 245

Email or Ship DXF file to vendor

Laser Cut per Dwg D2577 flat pattern D2577-101

Material release note required

W 05-12-07 50

2.0	D25771F	Wearplate Fwd
-----	---------	---------------

**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 50.0000 Each(s)

WEAR PLATE FWD

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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**Comment:** PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material release note is attached.

DC 05/12/30 50

4.0	QC6	DIMENSIONAL CHECK
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**Comment:** DIMENSIONAL CHECK

Inspect dimensions per template D2577-101T

05-12-19

5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
-----	-------------	-------------------------------

**Comment:** SMALL & MEDIUM FAB RESOURCE 1

Deburr

N/A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: LD Date: 06/03/13  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 12/7/2005 8:26:00 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPLATE

Job Number: 25137

Part Number: D25771

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

BRAKE NC

NC BRAKE



Comment: NC BRAKE

1-Form on brake as per Dwg D2577 using DT8155 and DT8179

2-Form joggle as per Dwg D2577 using DT8157

3-Identify as D2577-1

SB 06/01/19

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06-01-20

8.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Weld hard surface using DT8308A & DT8308B as per Dwg D2577

Qty Description

Batch

A/R 7560 Hardcoat Rod

19442 M19612

06-02-1

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

PD 06-02-03 50

10.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

06-03-10

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

06 03 13

(50)

12.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: FP

06 03 13

(50)

13.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/03/13

(50)

06-03-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_



QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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00-09-26 *off*

DESIGN		DRAWN BY		<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.		REV. E	
		D2577		SHEET 1 OF 5	
DATE		TITLE		SCALE	
00.09.22		WEARSHOE		1:10	
A	96.09.16	NEW ISSUE			
B	96.12.04	ADD HARDCOAT WELDS			
C	97.05.30	CHANGE HOLES TO OBROUNDS			
D	98.08.17	CORRECTED DIMENSIONS ON -1 & -3			
E	00.09.22	ADD D2577-101/-11/-13 INCORPORATE DE09176			

Technical drawing of a mechanical part, likely a shaft or rod, showing a cross-section with a central hole and a series of rectangular slots along its length. The drawing includes dimension lines and a scale bar.

D2577-1 & D2577-3 WEARSHOE  
MAKE FROM D2577-11 AND D2577-13 RESPECTIVELY  
FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

SECTION A-A  
SCALE 1:5

Technical drawing of a nozzle assembly. The drawing shows a cross-section of a nozzle with a curved top surface. Dimensions include a radius of R2.00 for the top curve, a vertical distance of 0.12 (TYP) from the base to the start of the curve, and a horizontal distance of 0.13 / 0.10 for the base. A note indicates: D2941-300 (REF) REMOVE POWDER COAT FROM THESE SURFACES.

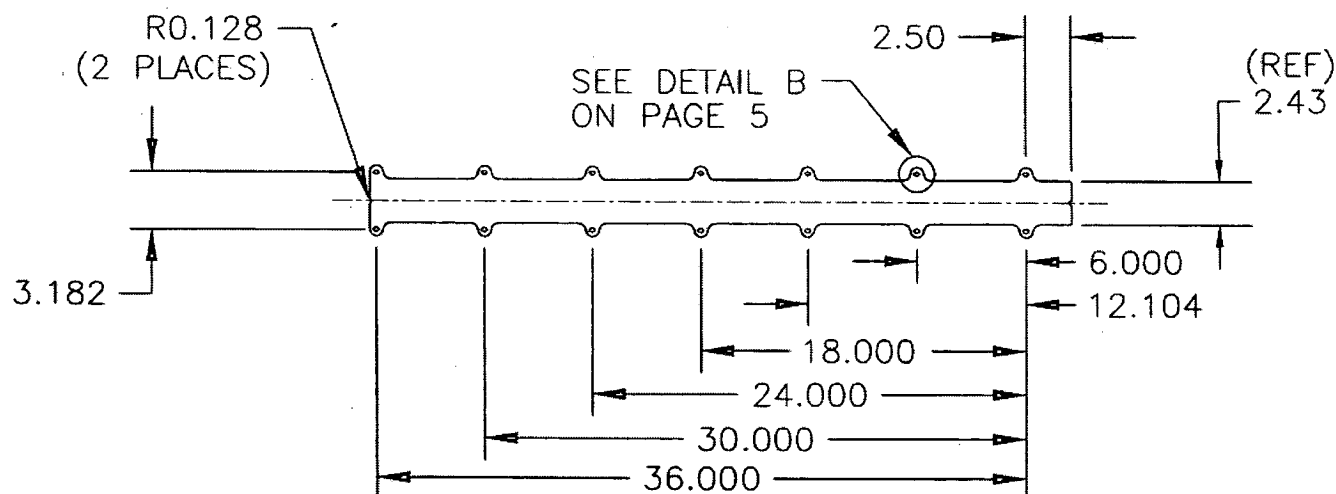
D2577-21 & D2577-23 WEARSHOE  
MAKE FROM D2577-11 AND D2577-13 RESPECTIVELY  
FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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		D2577
DATE	TITLE	REV. E
00.09.22	WEARSHOE	SHEET 2 OF 5
		SCALE
		1:10



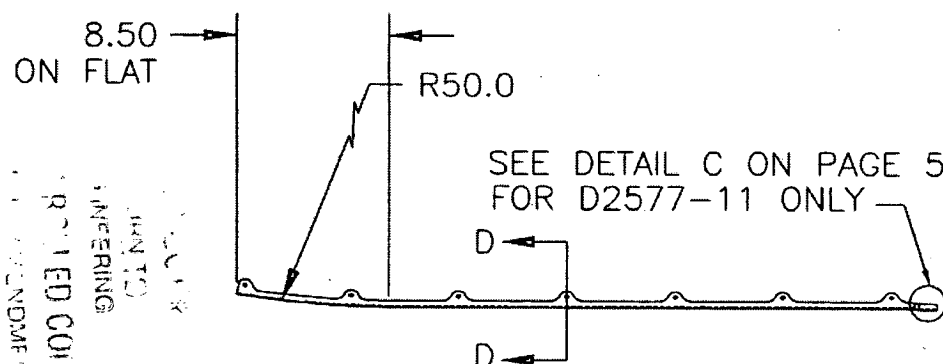
### D2577-101 FLAT PATTERN

BREAK ALL SHARP CORNERS 0.010 TO 0.020

MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570

SERIES STEEL 0.063 THICK

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



### D2577-11 & D2577-13 LONGITUDINAL BEND

MAKE FROM D2577-101

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

RELEASED  
00.09.26 #

25137

ORDER

NOTICE

RECEIVED

ENGINEERING

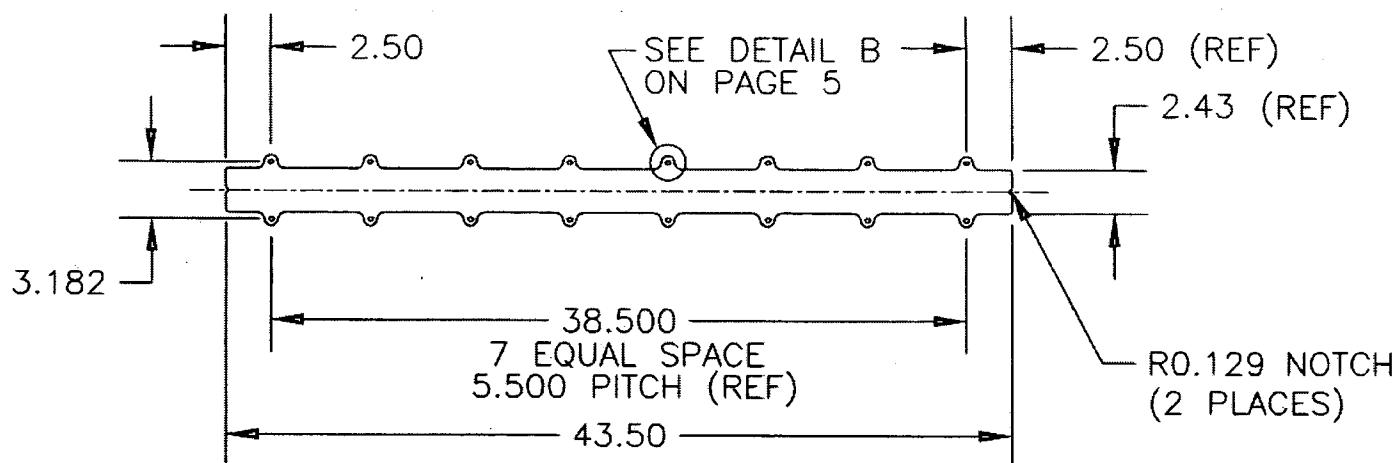
UNITED

WARRANTY

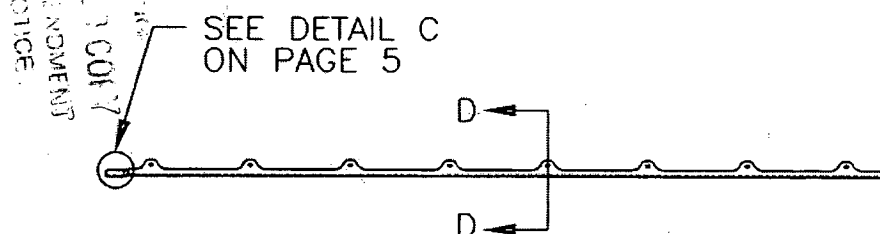


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DATE	00.09.22	DRAWING NO.	D2577	REV. E
		TITLE	WEARSHOE	SHEET 3 OF 5
		SCALE	1:10	

### D2577-5 FLAT PATTERN



### D2577-5 LONGITUDINAL BEND



### D2577-5 WEARSHOE

BREAK ALL SHARP CORNERS 0.010 TO 0.020

MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570

SERIES STEEL 0.063 THICK

FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

RELEASED  
00.04.26

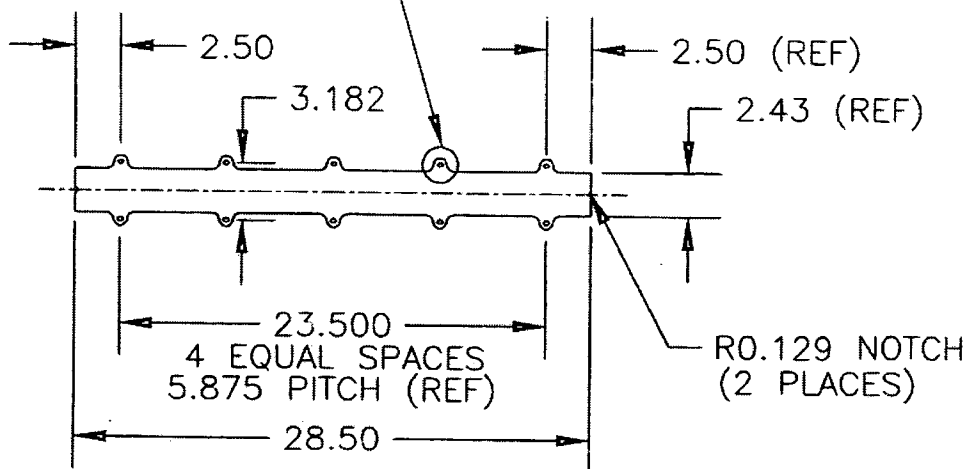
ORDER  
NO 25137  
NOTICE  
IN 17 COI 7



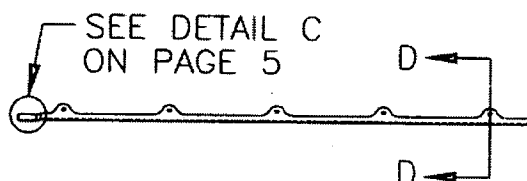
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DATE		TITLE	SHEET 4 OF 5
00.09.22		WEARSHOE	SCALE 1:10

SEE DETAIL B  
ON PAGE 5



SEE DETAIL C  
ON PAGE 5



FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

RELEASED  
00 09 26

W. CRK ORDER

NO. 25131

END  
NOTICE

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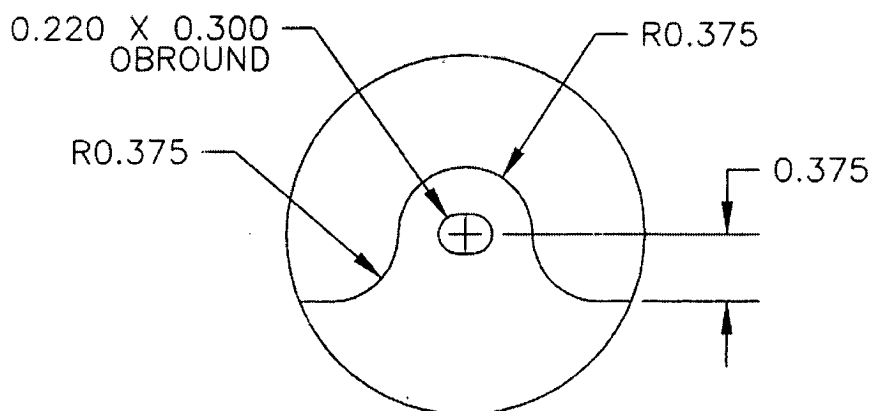
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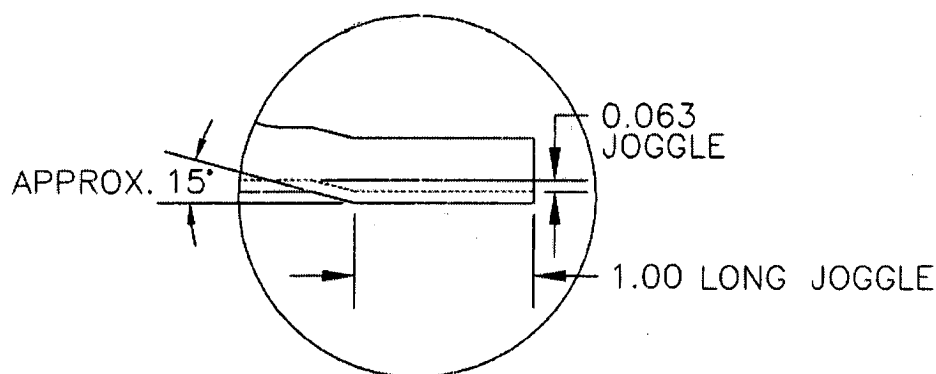
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CHECKED #	APPROVED #	DRAWING NO. D2577	REV. E SHEET 5 OF 5
DATE 00.09.22		TITLE WEARSHOE	SCALE 1:10

RELEASED  
00.09.26

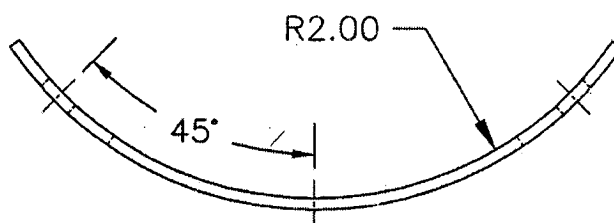
DETAIL B (SCALE 1:1)



DETAIL C (SCALE 1:1)



SECTION D-D (SCALE 1:1)



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WORK IN PROGRESS

NO. 25137

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New Zealand Steel Limited  
Glenbrook, South Auckland  
Postal: Private Bag 92121, Auckland, New Zealand  
Telephones: (09) 375 8996 / 375 8111 Auckland  
(09) 235 8069 / 235 3535 Waiuku  
Fax: (09) 375 8859

# TEST CERTIFICATE

Ref: SZ10/22495

CUSTOMER	Wilkinson	P50323 DI001	SPECIFICATION	ASTMA1008 CS Type A	CERTIFICATE No	TC112397
CUSTOMER O/N	90-21N-686		PRODUCT	CRA WIDE COIL	PAGE	1 of 1
MILL O/N	480737		DIMENSIONS	0.055" x 48" x Coil	DATE	09 June 2005

PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT															MECHANICAL TESTS (TEST SPECIFICATION - ASTM A370)							
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ( )	BEND	YIELD	T.S.	%ELONG	HARDNESS	r	LENGTH
		x100			x1000										x10000		x100	180°			GL=	HRB	( )	(feet)
R9-459713-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1585
R9-459714-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1457
R9-459715-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1375
R9-459716-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1473
R9-459717-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1631
R9-459718-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1093
R9-459719-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1562
R9-459720-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1535
R9-460380-00	641761	4	TR	20	13	17	12	18	25	5	8	1	1					Good				50		1581
R9-460381-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1562
R9-460382-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1503
R9-461458-00	642309	2	TR	18	10	20	11	17	19	1	6	1	1					Good				48		1785

YIELD	GAUGE LENGTH (G.L.)				PLASTIC STRAIN RATIO (r)				IMPACT TEST			CARBON EQUIVALENT VALUE (CE)		
(A)=0.2% PROOF STRESS	(A)=200mm	(C)=80mm	(E)=2"		(A)=r0	(C)=r45			(A)=10mm x 10mm	(D)=2.5mm x 10mm	(E)=5mm x 10mm	(A)=C+Mn/8	(C)=C+Mn/8+Si/24	
(B)=LOWER YIELD STRESS	(B)=50mm	(D)=5.65 So	(F)=8"		(B)=r90	(D)=(r0+r90+2r45)/4			(B)=7.5mm x 10mm			(B)=C+Mn/8+(Cr+V+Mo)/5+(Cu+Ni)/15	(D)=	

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED  
WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED *Antish Misra*  
QC METALLURGIST

16 ga ms

PO# 146, 267, 245,

11/23/2004

10:02

CALIFORNIA STEEL IND. → 916043013244

NO.361 0005



California Steel Industries  
14000 San Bernardino Ave.  
Fontana, California 92335  
Ph (909) 350-6300

# CERTIFIED TEST REPORT

CUSTOMER ORDER P40715ME001		MO. NUMBER 02-9906-02		SHIPPING DATE 11/22/04		CAR NUMBER RR: BNSF538814		TALLY NUMBER PO 250442783 1/																	
WILKINSON STEEL AND METALS A DIVISION OF PREMETAL CO., INC. 888 S.E. MARINE DR., VANCOUVER BC, CANADA, V5X2V3				WILKINSON STEEL AND METALS A DIVISION OF PREMETAL CO., INC. 888 S.E. MARINE DR. VANCOUVER BC V5X 2																					
MARK ALL DOCUMENTS W/P.O. P40715ME001. FAX TALLIES AT TIME OF SHIPMENT TO MEL ELIAS FAX #604-301-3244.																									
END USE	WAREHOUSE STOCK - TO BE LASER CUT																								
PROD	H.R. COILS - P & O - PRIME																								
SPEC	PQ-IN CONFORMANCE WITH ASTM-A-36-96 CHEMICAL AND TENSILE REQUIREMENTS																								
T/R	INSPECTION MILL																								
DESCRIPTION				COILS, PIECES OR BUNDLES	HEAT NUMBER																				
.2500 x 48.0000 x COIL NOM ME				4	M74552																				
							I CERTIFY THE FOLLOWING TEST INFORMATION TO BE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.   CHIEF - LABORATORY SERVICES																		
MECHANICAL PROPERTIES							CHEMICAL ANALYSIS																		
HEAT OR LOT NUMBER	SLAB NUMBER	CO	YIELD KSI	TENSILE STRENGTH KSI	% ELONGATION		BEND TEST	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	V	Co	Ti	N				
M74552			46.8 46.4	65.0 64.5	22 24			17	1.05	008	005	029	00	00	00	00	040	001	001	001	004				
CTR-001 PTL0022L 060712																									

PO: 221782

INV: 551102M10019

PO# 245

1/4" ms

